

GETTING IT RIGHT WITH UTILITY SCALE SOLAR

Patrick Fanning // Chesapeake Bay Foundation // PFanning@cbf.org

Emily Piontek // Appalachian Voices // emily@appvoices.org

Bob Shippee // Sierra Club Virginia Chapter // rsoxbob@gmail.com

Kate Wofford // Alliance for the Shenandoah Valley // kwofford@shenandoahalliance.org

EXECUTIVE SUMMARY

Virginia's important transition to renewable energy relies heavily on utility-scale solar facilities. New state policies are needed to maximize utility-scale solar's environmental benefits and to minimize the land-use impacts on farms, forests, and streams. With well-designed incentives, solar can give new productive life to Virginia's brownfields, including post-mining lands, large commercial and industrial sites, and other marginal lands. Best management practices, including the reduction of soil compaction and the use of appropriate stormwater runoff calculations, should be applied to reduce downstream water quality impacts.

CHALLENGE

Virginia has experienced increases in both the number and size of utility-scale solar facilities, and this trend is likely to continue as Virginia transitions away from fossil fuel based generation under the Virginia Clean Economy Act (VCEA).¹ This creates tax revenue, construction jobs, and lease payments for many rural communities, but also raises some challenges related to land use. On average, utility-scale solar requires seven to ten acres per megawatt produced. Many of these facilities are being sited in rural localities with little experience permitting large construction projects. One recent survey of Virginia localities found that a majority of localities are either in the process of updating an existing solar ordinance or are considering adopting such an ordinance.² Meanwhile, 69% of localities surveyed do not identify land areas for large-scale solar siting in their comprehensive plans.³

Virginia needs greater deployment of renewable energy projects. However, all projects should take into account site-specific conditions. Decision makers must ensure proper site selection and heed practices to minimize any associated negative impacts. Fortunately, these challenges can be addressed if handled correctly. Virginia should look to examples in other states and countries where stakeholders are committed to balancing meaningful utility-scale solar deployment with careful protection of farms and forests and with minimal impact on habitat and historic, cultural and scenic resources.

SOLUTION

Virginia's policymakers should implement and promote best practices for utility-scale solar,

including:

SELECT SITES STRATEGICALLY

Appropriate direction should be given to the industry by prioritizing and incentivizing development on post-mining land, landfills, brownfields, and industrial or commercial sites to reduce unnecessary impacts to forests and agriculturally productive lands.⁴

MINIMIZE WILDLIFE HABITAT DISTURBANCE & PROTECT ECOLOGY

Ensure that solar developers are communicating early and often with federal and state wildlife agencies to minimize impacts on habitat and movement of wildlife.

FOLLOW BEST MANAGEMENT PRACTICES

Projects should include recognized best management practices for water quality and sustainable groundskeeping. Water Quality protections/standards (time of year restrictions, turbidity/TSS standards, etc.) should be incorporated into the state permitting process addressing potential in-stream impacts. The use of native pollinator plants can improve erosion control, pesticide avoidance, and improve stormwater infiltration, wildlife habitat, and reduce long-term maintenance costs and emissions. Construction practices should be required that reduce soil compaction and return topsoil to the site. Planting vegetation around and under panels can increase nitrogen retention, total nitrogen, and carbon sequestration above baseline, so agri-voltaics should be encouraged where practicable.

MINIMIZE ANTICIPATORY CLEARING OF FORESTED LANDS

Anticipatory clearing occurs when a landowner clears the forested land in anticipation of submitting an application for a solar project, but such clearing should be conducted subject to best management practices applicable for land development rather than less stringent forestry requirements.

PROVIDE LOCALITIES WITH TECHNICAL ASSISTANCE

Support localities grappling with questions about utility-scale solar through state-supported technical assistance to ensure localities have sufficient expertise to appropriately consider and regulate solar land use within their jurisdictions.

POLICY RECOMMENDATIONS

Incentivize solar on compromised land by funding the Virginia Brownfield and Coal Mine Renewable Energy Grant Program with \$35 million annually, and removing restrictions on funding sources.

Increase capacity at Department of Energy and Virginia Cooperative Extension Service to implement pilot projects that demonstrate ways solar development can complement agriculture; and provide technical support for localities implementing solar ordinances.

Strengthen DEQ's current minimum standards for erosion and sediment control and stormwater management and associated staffing levels to ensure controls protect local water quality, consider and mitigate for adverse cumulative impacts to ecosystem services, and are consistent with Chesapeake Bay TMDL goals.

Develop sound regulations that require solar projects to minimize the displacement of prime agricultural soils and forested lands and, where unavoidable, to adequately mitigate adverse impacts to these resources.